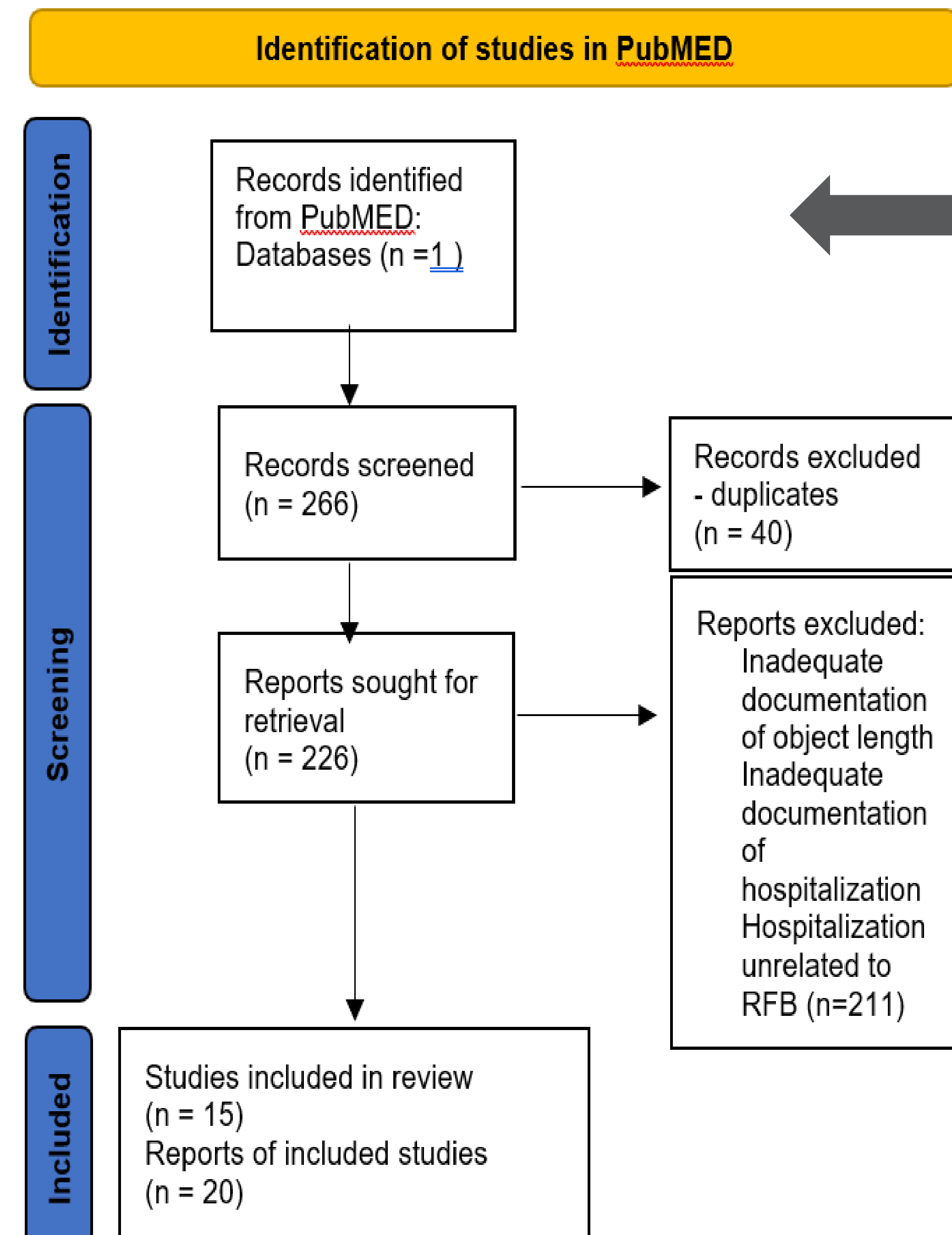


Size Matters Not: A Retrospective Analysis of Rectal Foreign Bodies

Background

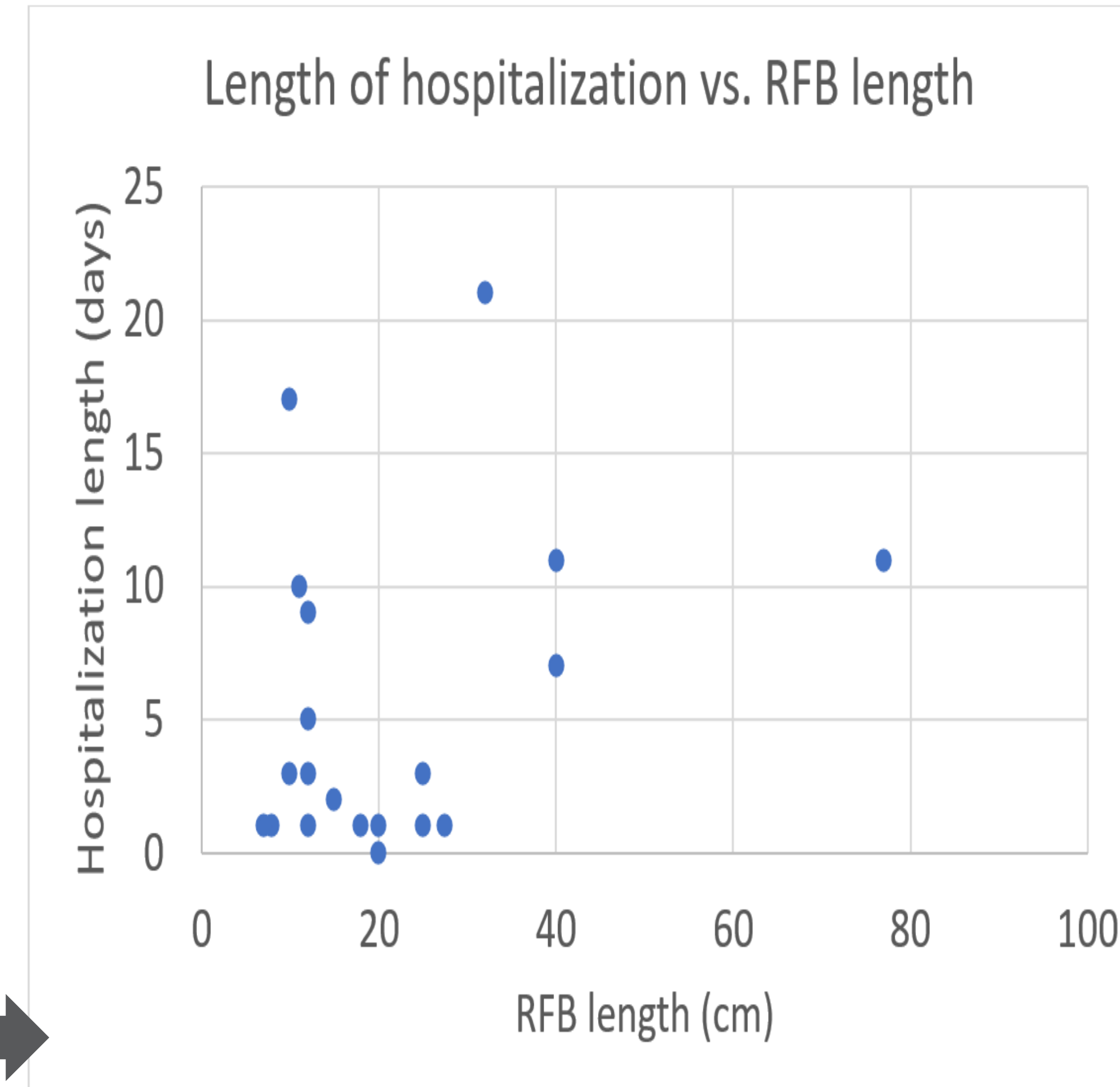
- Rectal foreign bodies (RFB) is a well-characterized phenomenon in the literature.
- While most RFB are removed inconsequentially in the ED, a small proportion result in hospitalization.
- The purpose of this study is to review existing literature regarding length of RFB and the association with duration of hospitalization

Methods



- A comprehensive literature review was on PubMed for “rectal foreign body”, “rectal foreign body hospitalization” “rectal foreign body case report”.
- Analysis was carried out on the results; 266 studies were identified, of which 15 were included.
- 20 patients in 15 studies
- Mean RFB 21.67cm (median 16.5, SD 16.4, range 7-77cm)
- Mean Hospitalization 5.4 days (median 3, SD 5.9, range 0-21 days)
- 12/20 required surgical intervention
- 5/12 involve bowel perforation

Analysis



- There is a weak positive correlation between length of foreign body against length of hospitalization. This correlation was found to be statistically insignificant with linear regression ($p > 0.1$ for F-test of overall significance)

Length of Stay	Small RFB (n=13)	Large RFB (n=7)	P value
Mean / SD	4.15 / 4.98	7.86 / 7.19	0.12787
Median	2	7	

Length of Stay	Small RFB (n=10)	Large RFB (n=10)	P value
Mean / SD	5.2/5.26	5.7/6.83	0.4284
Median	3	2	

Length of Stay	Surgical (12)	Non-surgical (8)	P value
Mean / SD	8.41/6.06	1 / 0.53	0.00073
Median	8	1	

- No significant correlation on stratified analysis when stratifying by mean (length <21 cm), or median (length <16 cm). ($p > 0.1$)
- Surgical intervention is correlated with increased hospital stay ($p < 0.01$)

Discussion

- There is insufficient statistical evidence to suggest a correlation between increased length of RFB with increased hospitalization
- Weaknesses: small sample size. Search parameters remove >90% of studies in initial sampling
- Hospitalization length commonly excluded information
- Heterogeneity no documented – different sizing independent on length may have consequential physiological consequences. Soft tissue swelling due to sharper edges or excessive *width* may render non-operative removal impossible
- Explorations – length of RFB with length of retention: sigmoid FB have higher operative rates compared to rectal FB [3] – possibly related to length.

For example:

- Initial sampling 266 -> 15 studies final inclusions
- Many surgical journals detail more operative course than post-operative care. Athamnah et al – 7 cm ball causing perforation requiring diverting loop colostomy [1]; contrast to Sadhu et al – 27.5 cm sprinkler head removed unremarkably with trans-anal approach [2]
- Longer RFB may cause prolonged sigmoid damage, but may be balanced by easier access with endoscopic removal [4]

Conclusion

- Length of RFB is likely a non-contributory factor to length of hospitalization.
- Additional investigation regarding the risk factors for surgical intervention and subsequent hospitalization due to rectal foreign bodies is warranted
- Insight into the rationale behind rectal body insertion may be valuable.

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